Matter Webquest

1. Define matter.
2. List the five states (phases) of matter.

a.

b.

c.

d.

e.

1. Name three properties of matter.
2. List two properties of a solid

1. List two properties of a liquid
2. List two properties of a gas
3. Describe the motion of the atoms in a solid, liquid, and gas
   1. Solid-
   2. Liquid-
   3. Gas-
4. In the boxes below, draw a picture showing the particles in a solid, liquid, and gas

Solid Liquid Gas

1. What is a physical change?
2. Name 3 examples of physical changes
3. What is a chemical change?
4. Name 3 examples of chemical changes

|  |  |  |
| --- | --- | --- |
| **Some Characteristics of Gases, Liquids and Solids and the Microscopic Explanation for the Behavior** | | |
| **gas** | **liquid** |  |
| assumes the shape and volume of its container | particles can move/slide past one another | retains a fixed volume and shape  rigid - particles locked into place |
| compressible | little free space between particles | not easily compressible  little free space between particles |
| flows easily  particles can move past one another | flows easily  particles can move/slide past one another | rigid - particles cannot move/slide past one another |

1. What is the freezing point of pure water? \_\_\_\_\_\_\_\_oC \_\_\_\_\_\_\_oF
2. What is the boiling point of pure water? \_\_\_\_\_\_\_\_oC \_\_\_\_\_\_\_oF
3. Melting and Heating Experiment: This one will be challenging. Complete the Activity at the following website. Once there, select the pink or green material and answer the questions.

<http://www.harcourtschool.com/activity/hotplate/index.html>

Pink-

1. What was the melting point?\_\_\_\_\_\_\_\_\_\_\_
2. What was the boiling point? \_\_\_\_\_\_\_\_\_\_\_

Green-

1. What was the melting point? \_\_\_\_\_\_\_\_\_\_\_\_
2. What was the boiling point? \_\_\_\_\_\_\_\_\_\_\_\_\_
3. Watch the animation. Describe what happens to the motion of the particles in of a block of ice as it melts and boils.

<http://mutuslab.cs.uwindsor.ca/schurko/animations/waterphases/status_water.htm>

* 1. Motion of particles as it BEGINS to melt-
  2. Motion of particles as if FINISHES melting-
  3. Motion of particles as it BEGINS to boil-
  4. Motion of particles when it IS boiling-

1. The \_\_\_\_\_\_\_\_\_\_\_\_ is considered the basic unit of any element.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hold huge amounts of energy and their molecules are spread out as much as possible.
3. Rust is an example of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ change.
4. Elements and compounds can move from one phase to another phase when special \_\_\_\_\_\_\_\_\_\_\_\_\_\_ are present.
5. What is another word for gas?
6. When you reach the temperature of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ point, you become a liquid.
7. Melting a sugar cube is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ change because the substance is still sugar.
8. Scientists use something called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to measure when a liquid turns into a solid.
9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are a lot like gases, but the atoms are different because they are made up of free electrons and ions of the element.
10. Go to the following site and scroll down to the activity titled “Changing States”. Click on the picture to begin the activity. After completing the activity, draw a picture below of the results.

<http://www.crickweb.co.uk/ks2science.html#changingstate>